

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1. (Currently amended): A device for amplifying light pulses comprising:

(a) a pulsed laser light source for producing light pulses having an optical spectrum;

(b) an optical stretcher coupled to the light pulses emitted by said laser light source, said optical stretcher comprising an optical fiber having a negative group velocity dispersion and for temporally stretching the light pulses of said pulsed laser light source; and

(c) an optically pumped amplifier fiber arranged to receive the light pulses from said optical stretcher, said amplifier fiber for amplifying and temporally compressing the light pulses, said optical stretcher preceding said amplifier fiber;

wherein said amplifier fiber has a positive group velocity dispersion and non-linear optical properties, said amplifier fiber broadening ~~so that~~ the optical spectrum of the light pulses ~~is broadened~~ during amplification of the light pulses by taking advantage of non-linear self-phase modulation.

Claims 2-3. (Canceled).

Claim 4. (Original): The device according to claim 1, wherein said pulsed laser light source produces fiber-coupled femtosecond light pulses having a pulse energy of up to 100 picojoules.

Claim 5. (Original): The device according to claim 1, wherein amplified light pulses from said amplifier fiber pass to an optical compressor for further temporal compression.

Claim 6. (Original): The device according to claim 1, further comprising at least one laser diode for optical pumping of said amplifier fiber.

Claim 7. (Original): The device according to claim 1, further comprising a highly non-linear optical fiber, wherein amplified light pulses are coupled into said optical fiber for generating an optical frequency comb comprising more than one optical octave.

Claim 8. (Original): The device according to claim 7, further comprising an interferometer following said highly non-linear optical fiber for characterizing the optical frequency comb.

Claim 9. (Original): The device according to claim 8, wherein an output signal from said interferometer is passed to said pulsed laser light source for active stabilization.

Claim 10. (Original): The device according to claim 9, further comprising a second optical amplifier for receiving part of the light pulses emitted by said pulsed laser light source.